TABLE H-1
J-2 Range Northern Groundwater Alternative 1
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
CAPITAL COSTS - WELL ABANDONMENT							
System Decommissioning	1	LS	$ 10,000	$ 10,000		For the building	
EW Abandonment	3	EA	$ 10,000	$ 30,000			
MW Cluster Abandonment	1	LS	$ 51,667	$ 51,667			31 MW clusters
SUBTOTAL					$ 91,667		
Overhead & Support	1	LS		$ 9,167		10% of costs	
TOTAL					$ 100,834		
TOTAL ESCALATED					$ 128,692	Escalated from 2008	yr2013
DIRECT COSTS - SITE CLOSEOUT REPORT							
Report	1	LS	$ 60,000	$ 60,000			
Overhead & Support				$ 6,000		10% of costs	
TOTAL					$ 66,000		
TOTAL ESCALATED					$ 84,235	Escalated from 2008	yr2013

TABLE H-2
J-2 Range Northern Groundwater Alternative 1
Present Value Calculation

Year	System and Well Abandonment Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 0.1%)	Total Present Value Cost at 0.1%	Calendar Year
0	$ 128,692	$ 84,235	$ 212,927	1.0000	$ 212,927	2013
TOTAL	$ 128,692	$ 84,235	$ 212,927		$ 212,927	

TABLE H-3
J-2 Range Northern Groundwater Alternative 2
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
CAPITAL COSTS - MONITORING WELL CONSTRUCTION COSTS							
Property Access Support (ROA)	1	LS	$ 13,000	$ 13,000		Includes NHESP fee.	All drilling is on-base.
Site Prep/UXO Support/Restoration-Well Area	2	WELL	$ 50,000	$ 100,000		Per well cluster.	All drilling is on-base.
Drilling Subcontractor Mobilization	1	LS	$ 8,500	$ 8,500			
LTM Well Drilling	2	EA	$ 87,000	$ 174,000		Includes all labor, subcontractor cost and materials for well drilling, screen installation, development, and pump installation. Also includes analytical.	One well cluster will include two screens.
IDM	2	LS	$ 5,000	$ 10,000			
Surveying	1	LS	$ 5,000	$ 5,000			
SUBTOTAL					$ 310,500		
Overhead & Support	1	LS		$ 31,050		10% of costs	
TOTAL					$ 341,550		
TOTAL ESCALATED					$ 435,914	Escalated from 2008	yr2013
CAPITAL COSTS - WELL ABANDONMENT							
System Decommissioning	1	LS	$ 10,000	$ 10,000		For the building	
EW Abandonment	3	WL	$ 10,000	$ 30,000			
MW Cluster Abandonment	1	LS	$ 51,667	$ 51,667			31 MW clusters
SUBTOTAL					$ 91,667		
Overhead & Support	1	LS		$ 9,167		10% of costs	
TOTAL					$ 100,834		
TOTAL ESCALATED					$ 128,692	Escalated from 2008	yr2013
ANNUAL COSTS - ANNUAL GROUNDWATER MONITORING							
J-2 N Monitoring Program	1	LS	$ 56,431	$ 56,431		Similar to J-2 Range East Interim Groundwater Monitoring Plan (April 2006).	Annual cost decreases by 10% every 5 years assuming fewer wells are monitored as plume footprint diminishes.
Overhead & Support	1	LS		$ 5,643		10% of costs	
TOTAL				$ 62,074			
TOTAL ESCALATED					$ 87,344	Escalated from 2006	yr2013
DIRECT COSTS - SITE CLOSEOUT REPORT							
Report	1	LS	$ 60,000	$ 60,000			
Overhead & Support				$ 6,000		10% of costs	
TOTAL					$ 66,000		
TOTAL ESCALATED					$ 84,235	Escalated from 2008.	yr2013

TABLE H-4
J-2 Range Northern Groundwater Alternative 2
Present Value Calculation

Year	New Monitoring Well Construction and System and Well Abandonment Costs	Monitoring Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 1.1%)	Total Present Value Cost at 1.1%	Calendar Year
0	$ -	$ 87,344	$ -	$ 87,344	1.0000	$ 87,344	2013
1	$ -	$ 87,344	$ -	$ 87,344	0.9891	$ 86,394	2014
2	$ -	$ 87,344	$ -	$ 87,344	0.9784	$ 85,454	2015
3	$ -	$ 87,344	$ -	$ 87,344	0.9677	$ 84,524	2016
4	$ -	$ 87,344	$ -	$ 87,344	0.9572	$ 83,605	2017
5	$ -	$ 78,610	$ -	$ 78,610	0.9468	$ 74,426	2018
6	$ -	$ 78,610	$ -	$ 78,610	0.9365	$ 73,616	2019
7	$ -	$ 78,610	$ -	$ 78,610	0.9263	$ 72,815	2020
8	$ -	$ 78,610	$ -	$ 78,610	0.9162	$ 72,023	2021
9	$ -	$ 78,610	$ -	$ 78,610	0.9062	$ 71,239	2022
10	$ -	$ 70,749	$ -	$ 70,749	0.8964	$ 63,417	2023
11	$ -	$ 70,749	$ -	$ 70,749	0.8866	$ 62,727	2024
12	$ -	$ 70,749	$ -	$ 70,749	0.8770	$ 62,045	2025
13	$ -	$ 70,749	$ -	$ 70,749	0.8674	$ 61,370	2026
14	$ -	$ 70,749	$ -	$ 70,749	0.8580	$ 60,702	2027
15	$ -	$ 63,674	$ -	$ 63,674	0.8487	$ 54,038	2028
16	$ -	$ 63,674	$ -	$ 63,674	0.8394	$ 53,450	2029
17	$ -	$ 63,674	$ -	$ 63,674	0.8303	$ 52,868	2030
18	$ -	$ 63,674	$ -	$ 63,674	0.8213	$ 52,293	2031
19	$ -	$ 63,674	$ -	$ 63,674	0.8123	$ 51,724	2032
20	$ -	$ 57,307	$ -	$ 57,307	0.8035	$ 46,045	2033
21	$ -	$ 57,307	$ -	$ 57,307	0.7947	$ 45,544	2034
22	$ -	$ 57,307	$ -	$ 57,307	0.7861	$ 45,048	2035
23	$ -	$ 57,307	$ -	$ 57,307	0.7775	$ 44,558	2036
24	$ -	$ 57,307	$ -	$ 57,307	0.7691	$ 44,074	2037
25	$ -	$ 51,576	$ -	$ 51,576	0.7607	$ 39,235	2038
26	$ -	$ 51,576	$ -	$ 51,576	0.7524	$ 38,808	2039
27	$ -	$ 51,576	$ -	$ 51,576	0.7442	$ 38,385	2040
28	$ -	$ 51,576	$ -	$ 51,576	0.7362	$ 37,968	2041
29	$ -	$ 51,576	$ -	$ 51,576	0.7281	$ 37,555	2042
30	$ -	$ 46,418	$ -	$ 46,418	0.7202	$ 33,432	2043
31	$ -	$ 46,418	$ -	$ 46,418	0.7124	$ 33,068	2044
32	$ -	$ 46,418	$ -	$ 46,418	0.7046	$ 32,708	2045
33	$ 435,914	$ 46,418	$ -	$ 482,332	0.6970	$ 336,170	2046
34	$ -	$ 46,418	$ -	$ 46,418	0.6894	$ 32,000	2047
35	$ -	$ 41,777	$ -	$ 41,777	0.6819	$ 28,487	2048
36	$ -	$ 41,777	$ -	$ 41,777	0.6745	$ 28,177	2049
37	$ -	$ 41,777	$ -	$ 41,777	0.6671	$ 27,870	2050

TABLE H-4
J-2 Range Northern Groundwater Alternative 2
Present Value Calculation

Year	New Monitoring Well Construction and System and Well Abandonment Costs	Monitoring Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 1.1%)	Total Present Value Cost at 1.1%	Calendar Year
38	$ -	$ 41,777	$ -	$ 41,777	0.6599	$ 27,567	2051
39	$ -	$ 41,777	$ -	$ 41,777	0.6527	$ 27,267	2052
40	$ -	$ 37,599	$ -	$ 37,599	0.6456	$ 24,273	2053
41	$ -	$ 37,599	$ -	$ 37,599	0.6386	$ 24,009	2054
42	$ -	$ 37,599	$ -	$ 37,599	0.6316	$ 23,748	2055
43	$ -	$ 37,599	$ -	$ 37,599	0.6247	$ 23,490	2056
44	$ -	$ 37,599	$ -	$ 37,599	0.6179	$ 23,234	2057
45	$ -	$ 33,839	$ -	$ 33,839	0.6112	$ 20,683	2058
46	$ -	$ 33,839	$ -	$ 33,839	0.6046	$ 20,458	2059
47	$ -	$ 33,839	$ -	$ 33,839	0.5980	$ 20,235	2060
48	$ -	$ 33,839	$ -	$ 33,839	0.5915	$ 20,015	2061
49	$ -	$ 33,839	$ -	$ 33,839	0.5851	$ 19,798	2062
50	$ -	$ 30,455	$ -	$ 30,455	0.5787	$ 17,624	2063
51	$ -	$ 30,455	$ -	$ 30,455	0.5724	$ 17,432	2064
52	$ 128,692	$ 30,455	$ 84,235	$ 243,382	0.5662	$ 137,793	2065
TOTAL	$ 564,606	$ 2,935,833	$ 84,235	$ 3,584,674		$ 2,782,831	

TABLE H-5
J-2 Range Northern Groundwater Alternative 3
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
ANNUAL COSTS - OPERATIONS AND MAINTENANCE							
J-2N Treatment System	1	YR	$ 200,000	$ 200,000			
TOTAL					$ 200,000		
TOTAL ESCALATED					$ 210,000	Escalated from 2012	yr2013
CAPITAL COSTS - MONITORING WELL CONSTRUCTION COSTS							
Property Access Support (ROA)	1	LS	$ 13,000	$ 13,000		Includes NHESP fee.	All drilling is on-base.
Site Prep/UXO Support/Restoration-Well Area	2	WELL	$ 50,000	$ 100,000		Per well cluster.	All drilling is on-base.
Drilling Subcontractor Mobilization	1	LS	$ 8,500	$ 8,500			
LTM Well Drilling	2	EA	$ 87,000	$ 174,000		Includes all labor, subcontractor cost and materials for well drilling, screen installation, development, and pump installation. Also includes analytical.	One well cluster will include two screens.
IDM	2	LS	$ 5,000	$ 10,000			
Surveying	1	LS	$ 5,000	$ 5,000			
SUBTOTAL					$ 310,500		
Overhead & Support	1	LS		$ 31,050		10% of costs	
TOTAL					$ 341,550		
TOTAL ESCALATED					$ 435,914	Escalated from 2008	yr2013
ANNUAL COSTS - ANNUAL GROUNDWATER MONITORING							
Monitoring and Reporting	1	LS	$ 110,706	$ 110,706			Annual cost decreases by 10% every 2 years assuming fewer wells are monitored as plume footprint diminishes.
Overhead & Support	1	LS		$ 11,071		10% of costs	
TOTAL					$ 121,777		
TOTAL ESCALATED					$ 155,421	Escalated from 2008	yr2013
CAPITAL COSTS - WELL ABANDONMENT							
System Decommissioning	1	LS	$ 10,000	$ 10,000		For the building	
EW Abandonment	3	WL	$ 10,000	$ 30,000			
MW Cluster Abandonment	1	LS	$ 51,667	$ 51,667			31 MW clusters
SUBTOTAL					$ 91,667		
Overhead & Support	1	LS		$ 9,167		10% of costs	
TOTAL					$ 100,834		
TOTAL ESCALATED					$ 128,692	Escalated from 2008	yr2013
DIRECT COSTS - SITE CLOSEOUT REPORT							
Report	1	LS	$ 60,000	$ 60,000			
Overhead & Support				$ 6,000		10% of costs	
TOTAL					$ 66,000		
TOTAL ESCALATED					$ 84,235	Escalated from 2008.	yr2013

TABLE H-6
J-2 Range Northern Groundwater Alternative 3
Present Value Calculation

Year	Existing System and Monitoring Well Construction and System and Well Abandonment Costs	Monitoring Costs	O&M Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 0.8%)	Total Present Value Cost at 0.8%	Calendar Year
0	$ 435,914	$ 155,421	$ 210,000	$ -	$ 801,335	1.0000	$ 801,335	2013
1	$ -	$ 155,421	$ 210,000	$ -	$ 365,421	0.9921	$ 362,521	2014
2	$ -	$ 139,879	$ 210,000	$ -	$ 349,879	0.9842	$ 344,348	2015
3	$ -	$ 139,879	$ 210,000	$ -	$ 349,879	0.9764	$ 341,615	2016
4	$ -	$ 125,891	$ 210,000	$ -	$ 335,891	0.9686	$ 325,354	2017
5	$ -	$ 125,891	$ 210,000	$ -	$ 335,891	0.9609	$ 322,772	2018
6	$ -	$ 113,302	$ 210,000	$ -	$ 323,302	0.9533	$ 308,209	2019
7	$ -	$ 113,302	$ 210,000	$ -	$ 323,302	0.9457	$ 305,763	2020
8	$ -	$ 101,972	$ 210,000	$ -	$ 311,972	0.9382	$ 292,706	2021
9	$ -	$ 101,972	$ 210,000	$ -	$ 311,972	0.9308	$ 290,383	2022
10	$ -	$ 91,775	$ 210,000	$ -	$ 301,775	0.9234	$ 278,662	2023
11	$ -	$ 91,775	$ 210,000	$ -	$ 301,775	0.9161	$ 276,450	2024
12	$ -	$ 82,597	$ 210,000	$ -	$ 292,597	0.9088	$ 265,916	2025
13	$ -	$ 82,597	$ 210,000	$ -	$ 292,597	0.9016	$ 263,805	2026
14	$ -	$ 74,337	$ 210,000	$ -	$ 284,337	0.8944	$ 254,324	2027
15	$ -	$ 74,337	$ 210,000	$ -	$ 284,337	0.8873	$ 252,305	2028
16	$ -	$ 66,904	$ 210,000	$ -	$ 276,904	0.8803	$ 243,759	2029
17	$ -	$ 66,904	$ -	$ -	$ 66,904	0.8733	$ 58,428	2030
18	$ 128,692	$ 60,213	$ -	$ 84,235	$ 273,140	0.8664	$ 236,644	2031
TOTAL	$ 564,606	$ 1,964,371	$ 3,570,000	$ 84,235	$ 6,183,211		$ 5,825,298	

TABLE H-7
J-2 Range Northern Groundwater Alternative 4
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
ANNUAL COSTS - OPERATIONS AND MAINTENANCE							
J-2N Treatment System	1	YR	$ 200,000	$ 200,000			
TOTAL					$ 200,000		
TOTAL ESCALATED					$ 210,000	Escalated from 2012	yr2013
CAPITAL COSTS - MONITORING WELL CONSTRUCTION COSTS							
Property Access Support (ROA)	1	LS	$ 13,000	$ 13,000		Includes NHESP fee.	All drilling is on-base.
Site Prep/UXO Support/Restoration-Well Area	2	WELL	$ 50,000	$ 100,000		Per well cluster.	All drilling is on-base.
Drilling Subcontractor Mobilization	1	LS	$ 8,500	$ 8,500			
LTM Well Drilling	2	EA	$ 87,000	$ 174,000		Includes all labor, subcontractor cost and materials for well drilling, screen installation, development, and pump installation. Also includes analytical.	One well cluster will include two screens.
IDM	2	LS	$ 5,000	$ 10,000			
Surveying	1	LS	$ 5,000	$ 5,000			
SUBTOTAL					$ 310,500		
Overhead & Support	1	LS		$ 31,050		10% of costs	
TOTAL					$ 341,550		
TOTAL ESCALATED					$ 435,914	Escalated from 2008	yr2013
ANNUAL COSTS - ANNUAL GROUNDWATER MONITORING							
Monitoring and Reporting	1	LS	$ 110,706	$ 110,706			Annual cost decreases by 10% every 2 years assuming fewer wells are monitored as plume footprint diminishes.
Overhead & Support	1	LS		$ 11,071		10% of costs	
TOTAL					$ 121,777		
TOTAL ESCALATED					$ 155,421	Escalated from 2008	yr2013
CAPITAL COSTS - WELL ABANDONMENT							
System Decommissioning	1	LS	$ 10,000	$ 10,000		For the building	
EW Abandonment	3	WL	$ 10,000	$ 30,000			
MW Cluster Abandonment	1	LS	$ 51,667	$ 51,667			31 MW clusters
SUBTOTAL					$ 91,667		
Overhead & Support	1	LS		$ 9,167		10% of costs	
TOTAL					$ 100,834		
TOTAL ESCALATED					$ 128,692	Escalated from 2008	yr2013
DIRECT COSTS - SITE CLOSEOUT REPORT							
Report	1	LS	$ 60,000	$ 60,000			
Overhead & Support				$ 6,000		10% of costs	
TOTAL					$ 66,000		
TOTAL ESCALATED					$ 84,235	Escalated from 2008.	yr2013

TABLE H-8
J-2 Range Northern Groundwater Alternative 4
Present Value Calculation

Year	Monitoring Well Construction and System and Well Abandonment Costs	Monitoring Costs	O&M Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 0.8%)	Total Present Value Cost at 0.8%	Calendar Year
0	$ 435,914	$ 155,421	$ 210,000	$ -	$ 801,335	1.0000	$ 801,335	2013
1	$ -	$ 155,421	$ 210,000	$ -	$ 365,421	0.9921	$ 362,521	2014
2	$ -	$ 139,879	$ 210,000	$ -	$ 349,879	0.9842	$ 344,348	2015
3	$ -	$ 139,879	$ 210,000	$ -	$ 349,879	0.9764	$ 341,615	2016
4	$ -	$ 125,891	$ 210,000	$ -	$ 335,891	0.9686	$ 325,354	2017
5	$ -	$ 125,891	$ 210,000	$ -	$ 335,891	0.9609	$ 322,772	2018
6	$ -	$ 113,302	$ 210,000	$ -	$ 323,302	0.9533	$ 308,209	2019
7	$ -	$ 113,302	$ 210,000	$ -	$ 323,302	0.9457	$ 305,763	2020
8	$ -	$ 101,972	$ 210,000	$ -	$ 311,972	0.9382	$ 292,706	2021
9	$ -	$ 101,972	$ 210,000	$ -	$ 311,972	0.9308	$ 290,383	2022
10	$ -	$ 91,775	$ 210,000	$ -	$ 301,775	0.9234	$ 278,662	2023
11	$ -	$ 91,775	$ 210,000	$ -	$ 301,775	0.9161	$ 276,450	2024
12	$ -	$ 82,597	$ 210,000	$ -	$ 292,597	0.9088	$ 265,916	2025
13	$ -	$ 82,597	$ 210,000	$ -	$ 292,597	0.9016	$ 263,805	2026
14	$ -	$ 74,337	$ 210,000	$ -	$ 284,337	0.8944	$ 254,324	2027
15	$ -	$ 74,337	$ -	$ -	$ 74,337	0.8873	$ 65,963	2028
16	$ 128,692	$ 66,904	$ -	$ 84,235	$ 279,831	0.8803	$ 246,335	2029
TOTAL	$ 564,606	$ 1,837,253	$ 3,150,000	$ 84,235	$ 5,636,094		$ 5,346,459	

TABLE H-9
J-2 Range Northern Groundwater Alternative 5
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
CAPITAL COSTS - TREATMENT SYSTEM DESIGN, CONSTRUCTION, AND STARTUP COSTS							
Mobilization							
Property Access Support (ROA)	1	LS	$ 13,000	$ 13,000		Includes NHESP fee.	
Chemical and Hydraulic Study	1	LS	$279,386	$ 279,386		Necessary because the new EWs may be sited where there is insufficient existing data. Includes UXO support, site prep, drilling and oversight, data collection, analysis, data management, and interpretation of physical and chemical samples.	
Engineering							
Modeling/Design	1	LS	$60,000	$ 60,000		Wellfield modeling; pump design.	
System Engineering Design	1	LS	$70,000	$ 70,000		Includes engineering design for the treatment system, pipeline, site engineering, and startup engineering.	
ETI Wellfield Construction							
Site Prep/UXO Support/Restoration-Well Area	2	WELL	$ 50,000	$ 100,000			All drilling is on-base.
EW Driller Mobilization	1	LS	$ 8,500	$ 8,500			
EW Drilling & Installation	2	EA	$ 350,000	$ 700,000		Includes all labor, subcontractor cost and materials for well drilling, screen installation, development, and pump installation. Also includes analytical.	
PME Well Drilling	2	EA	$ 100,000	$ 200,000		Includes all labor, subcontractor cost and materials for well drilling, screen installation, and development.	
IDM	4	LS	$ 5,000	$ 20,000			
EW Pump, Motor & Assoc. Materials	2	WELL	$ 22,361	$ 44,723		Includes installation.	Maximum design flow will be 125 gpm.
Pit Less Adapter	2	WELL	$ 5,000	$ 10,000		Includes installation and mechanical work.	
Piping	750	LF	$ 65	$ 48,750			
UXO Support for Piping and Overhead Power	5	DY	$ 2,100	$ 10,500			
Power, Electric, Communications, Overhead	750	LF	$ 75	$ 352,500			
125 gpm Stand-Alone Treatment System	2	LS	$ 250,000	$ 500,000		Includes all equipment, materials, labor, subcontracts, overhead, fee, etc.	
Infiltration Trenches	2	EA	$ 75,000	$ 150,000		Includes UXO clearance.	
SUBTOTAL					$ 2,567,359		
Overhead & Support	1	LS		$ 256,736		10% of costs	
TOTAL					$ 2,824,094		
TOTAL ESCALATED					$ 3,604,340	Escalated from 2008	yr 2013

TABLE H-9
J-2 Range Northern Groundwater Alternative 5
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
CAPITAL COSTS - BASELINE HYDRAULIC MONITORING							
Baseline Performance and Environmental Sampling							
New EWs	2	LS	$ 10,000	$ 20,000			Hydraulic measurements only.
Baseline Report	1	LS	$ 10,000	$ 10,000		Incremental cost for incorporating additional data into previously-scoped annual report for J-2 RRA.	Assume separate report not required. Data will be rolled into previously-scoped annual report.
Overhead & Support	1	LS		$ 6,000		10% of costs	
TOTAL				$ 36,000			
TOTAL ESCALATED					$ 50,656	Escalated from 2006	yr 2013
ANNUAL COSTS - OPERATIONS AND MAINTENANCE							
Treatment System	1	YR	$ 350,000	$ 350,000			
TOTAL					$ 350,000		
TOTAL ESCALATED					$ 458,500	Escalated from 2012	yr 2013
ANNUAL COSTS - ANNUAL GROUNDWATER MONITORING							
Monitoring and Reporting	1	LS	$ 110,706	$ 110,706			Annual cost decreases by 10% every 2 years assuming fewer wells are monitored as plume footprint diminishes.
Overhead & Support	1	LS		$ 11,071		10% of costs	
TOTAL					$ 121,777		
TOTAL ESCALATED					$ 155,421	Escalated from 2008	yr 2013
CAPITAL COSTS - WELL ABANDONMENT							
System Decommissioning	1	LS	$ 10,000	$ 10,000		For the building	
EW Abandonment	5	WL	$ 10,000	$ 50,000			
MW Cluster Abandonment	1	LS	$ 51,667	$ 51,667			31 MW clusters
SUBTOTAL					$ 111,667		
Overhead & Support	1	LS		$ 11,167		10% of costs	
TOTAL					$ 122,834		
TOTAL ESCALATED					$ 156,770	Escalated from 2008	yr 2013
DIRECT COSTS - SITE CLOSEOUT REPORT							
Report	1	LS	$ 60,000	$ 60,000			
Overhead & Support				$ 6,000		10% of costs	
TOTAL					$ 66,000		
TOTAL ESCALATED					$ 84,235	Escalated from 2008	yr 2013

TABLE H-10
J-2 Range Northern Groundwater Alternative 5
Present Value Calculation

Year	New Treatment System Design and Construction, System and Well Abandonment Costs	Baseline Monitoring Costs	Monitoring Costs	O&M Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 0.8%)	Total Present Value Cost at 0.8%	Calendar Year
0	$ 3,604,340	$ -	$ 155,421	$ 458,500	$ -	$ 4,218,261	1.0000	$ 4,218,261	2013
1	$ -	$ 50,656	$ 155,421	$ 458,500	$ -	$ 664,577	0.9921	$ 659,302	2014
2	$ -	$ -	$ 139,879	$ 458,500	$ -	$ 598,379	0.9842	$ 588,919	2015
3	$ -	$ -	$ 139,879	$ 458,500	$ -	$ 598,379	0.9764	$ 584,245	2016
4	$ -	$ -	$ 125,891	$ 458,500	$ -	$ 584,391	0.9686	$ 566,059	2017
5	$ -	$ -	$ 125,891	$ 458,500	$ -	$ 584,391	0.9609	$ 561,566	2018
6	$ -	$ -	$ 113,302	$ 458,500	$ -	$ 571,802	0.9533	$ 545,108	2019
7	$ -	$ -	$ 113,302	$ 458,500	$ -	$ 571,802	0.9457	$ 540,782	2020
8	$ -	$ -	$ 101,972	$ 458,500	$ -	$ 560,472	0.9382	$ 525,859	2021
9	$ -	$ -	$ 101,972	$ 458,500	$ -	$ 560,472	0.9308	$ 521,686	2022
10	$ -	$ -	$ 91,775	$ 458,500	$ -	$ 550,275	0.9234	$ 508,129	2023
11	$ -	$ -	$ 91,775	$ 458,500	$ -	$ 550,275	0.9161	$ 504,096	2024
12	$ -	$ -	$ 82,597	$ -	$ -	$ 82,597	0.9088	$ 75,065	2025
13	$ 156,770	$ -	$ 82,597	$ -	$ 84,235	$ 323,602	0.9016	$ 291,759	2026
TOTAL	$ 3,761,110	$ 50,656	$ 1,621,675	$ 5,502,000	$ 84,235	$ 11,019,675		$ 10,690,837	

TABLE H-11
J-2 Range Eastern Groundwater Alternative 1
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
CAPITAL COSTS - WELL ABANDONMENT							
System Decommissioning	1	LS	$ 10,000	$ 10,000		For the building	
EW Abandonment	3	WL	$ 10,000	$ 30,000			
MW Cluster Abandonment	1	LS	$ 75,000	$ 75,000			45 MW clusters
SUBTOTAL					$ 115,000		
Overhead & Support	1	LS		$ 11,500		10% of costs	
TOTAL					$ 126,500		
TOTAL ESCALATED					$ 161,450	Escalated from 2008	yr 2013
DIRECT COSTS - SITE CLOSEOUT REPORT							
Report	1	LS	$ 60,000	$ 60,000			
Overhead & Support				$ 6,000		10% of costs	
TOTAL					$ 66,000		
TOTAL ESCALATED					$ 84,235	Escalated from 2008	yr 2013

TABLE H-12
J-2 Range Eastern Groundwater Alternative 1
Present Value Calculation

Year	System and Well Abandonment Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 0.1%)	Total Present Value Cost at 0.1%	Calendar Year
0	$ 161,450	$ 84,235	$ 245,684	1.0000	$ 245,684	2013
TOTAL	$ 161,450	$ 84,235	$ 245,684		$ 245,684	

TABLE H-13
J-2 Range Eastern Groundwater Alternative 2
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
CAPITAL COSTS - MONITORING WELL CONSTRUCTION COSTS							
Property Access Support (ROA)	1	LS	$ 13,000	$ 13,000		Includes NHESP fee.	All drilling is on-base.
Site Prep/UXO Support/Restoration-Well Area	3	WELL	$ 50,000	$ 150,000		Per well cluster	All drilling is on-base.
Drilling Subcontractor Mobilization	1	LS	$ 8,500	$ 8,500			
LTM Well Drilling	3	EA	$ 87,000	$ 261,000		Includes all labor, subcontractor cost and materials for well drilling, screen installation, development, and pump installation. Also includes analytical.	One well cluster will include two screens.
IDM	3	LS	$ 5,000	$ 15,000			
Surveying	1	LS	$ 5,000	$ 5,000			
SUBTOTAL					$ 452,500		
Overhead & Support	1	LS		$ 45,250		10% of costs	
TOTAL					$ 497,750		
TOTAL ESCALATED					$ 635,269	Escalated from 2008	yr 2013
CAPITAL COSTS - WELL ABANDONMENT							
System Decommissioning	1	LS	$ 10,000	$ 10,000		For the building	
MW Cluster Abandonment	1	LS	$ 75,000	$ 75,000			45 MW clusters
EW Abandonment	3	WL	$ 10,000	$ 30,000			
SUBTOTAL					$ 115,000		
Overhead & Support	1	LS		$ 11,500		10% of costs	
TOTAL					$ 126,500		
TOTAL ESCALATED					$ 161,450	Escalated from 2008	yr 2013
ANNUAL COSTS - ANNUAL GROUNDWATER MONITORING							
J-2 E Groundwater Monitoring	1	LS	$ 56,431	$ 56,431		Based on Final J-2 Range East Interim Groundwater Monitoring Plan (April 2006).	Annual cost decreases by 10% every 5 years assuming fewer wells are monitored as plume footprint diminishes.
Overhead & Support	1	LS		$ 5,643		10% of costs	
TOTAL J-2E				$ 62,074			
TOTAL J-2E ESCALATED					$ 87,344	Escalated from 2006	yr 2013
DIRECT COSTS - SITE CLOSEOUT REPORT							
Report	1	LS	$ 60,000	$ 60,000			
Overhead & Support				$ 6,000		10% of costs	
TOTAL					$ 66,000		
TOTAL ESCALATED					$ 84,235	Escalated from 2008	yr 2013

TABLE H-14
J-2 Range Eastern Groundwater Alternative 2
Present Value Calculation

Year	Monitoring Well Construction and System and Well Abandonment Costs	Monitoring Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 1.1%)	Total Present Value Cost at 1.1%	Calendar Year
0	$ -	$ 87,344	$ -	$ 87,344	1.0000	$ 87,344	2013
1	$ -	$ 87,344	$ -	$ 87,344	0.9891	$ 86,394	2014
2	$ -	$ 87,344	$ -	$ 87,344	0.9784	$ 85,454	2015
3	$ -	$ 87,344	$ -	$ 87,344	0.9677	$ 84,524	2016
4	$ -	$ 87,344	$ -	$ 87,344	0.9572	$ 83,605	2017
5	$ -	$ 78,610	$ -	$ 78,610	0.9468	$ 74,426	2018
6	$ -	$ 78,610	$ -	$ 78,610	0.9365	$ 73,616	2019
7	$ -	$ 78,610	$ -	$ 78,610	0.9263	$ 72,815	2020
8	$ -	$ 78,610	$ -	$ 78,610	0.9162	$ 72,023	2021
9	$ -	$ 78,610	$ -	$ 78,610	0.9062	$ 71,239	2022
10	$ -	$ 70,749	$ -	$ 70,749	0.8964	$ 63,417	2023
11	$ -	$ 70,749	$ -	$ 70,749	0.8866	$ 62,727	2024
12	$ -	$ 70,749	$ -	$ 70,749	0.8770	$ 62,045	2025
13	$ -	$ 70,749	$ -	$ 70,749	0.8674	$ 61,370	2026
14	$ -	$ 70,749	$ -	$ 70,749	0.8580	$ 60,702	2027
15	$ -	$ 63,674	$ -	$ 63,674	0.8487	$ 54,038	2028
16	$ -	$ 63,674	$ -	$ 63,674	0.8394	$ 53,450	2029
17	$ -	$ 63,674	$ -	$ 63,674	0.8303	$ 52,868	2030
18	$ -	$ 63,674	$ -	$ 63,674	0.8213	$ 52,293	2031
19	$ -	$ 63,674	$ -	$ 63,674	0.8123	$ 51,724	2032
20	$ -	$ 57,307	$ -	$ 57,307	0.8035	$ 46,045	2033
21	$ -	$ 57,307	$ -	$ 57,307	0.7947	$ 45,544	2034
22	$ -	$ 57,307	$ -	$ 57,307	0.7861	$ 45,048	2035
23	$ -	$ 57,307	$ -	$ 57,307	0.7775	$ 44,558	2036
24	$ -	$ 57,307	$ -	$ 57,307	0.7691	$ 44,074	2037
25	$ -	$ 51,576	$ -	$ 51,576	0.7607	$ 39,235	2038
26	$ -	$ 51,576	$ -	$ 51,576	0.7524	$ 38,808	2039
27	$ -	$ 51,576	$ -	$ 51,576	0.7442	$ 38,385	2040
28	$ -	$ 51,576	$ -	$ 51,576	0.7362	$ 37,968	2041
29	$ -	$ 51,576	$ -	$ 51,576	0.7281	$ 37,555	2042
30	$ -	$ 46,418	$ -	$ 46,418	0.7202	$ 33,432	2043
31	$ -	$ 46,418	$ -	$ 46,418	0.7124	$ 33,068	2044
32	$ -	$ 46,418	$ -	$ 46,418	0.7046	$ 32,708	2045
33	$ -	$ 46,418	$ -	$ 46,418	0.6970	$ 32,352	2046
34	$ -	$ 46,418	$ -	$ 46,418	0.6894	$ 32,000	2047
35	$ -	$ 41,777	$ -	$ 41,777	0.6819	$ 28,487	2048
36	$ -	$ 41,777	$ -	$ 41,777	0.6745	$ 28,177	2049
37	$ -	$ 41,777	$ -	$ 41,777	0.6671	$ 27,870	2050
38	$ -	$ 41,777	$ -	$ 41,777	0.6599	$ 27,567	2051
39	$ -	$ 41,777	$ -	$ 41,777	0.6527	$ 27,267	2052
40	$ -	$ 37,599	$ -	$ 37,599	0.6456	$ 24,273	2053
41	$ -	$ 37,599	$ -	$ 37,599	0.6386	$ 24,009	2054

TABLE H-14
J-2 Range Eastern Groundwater Alternative 2
Present Value Calculation

Year	Monitoring Well Construction and System and Well Abandonment Costs	Monitoring Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 1.1%)	Total Present Value Cost at 1.1%	Calendar Year
42	$ -	$ 37,599	$ -	$ 37,599	0.6316	$ 23,748	2055
43	$ -	$ 37,599	$ -	$ 37,599	0.6247	$ 23,490	2056
44	$ -	$ 37,599	$ -	$ 37,599	0.6179	$ 23,234	2057
45	$ -	$ 33,839	$ -	$ 33,839	0.6112	$ 20,683	2058
46	$ 635,269	$ 33,839	$ -	$ 669,108	0.6046	$ 404,523	2059
47	$ -	$ 33,839	$ -	$ 33,839	0.5980	$ 20,235	2060
48	$ -	$ 33,839	$ -	$ 33,839	0.5915	$ 20,015	2061
49	$ -	$ 33,839	$ -	$ 33,839	0.5851	$ 19,798	2062
50	$ -	$ 30,455	$ -	$ 30,455	0.5787	$ 17,624	2063
51	$ -	$ 30,455	$ -	$ 30,455	0.5724	$ 17,432	2064
52	$ -	$ 30,455	$ -	$ 30,455	0.5662	$ 17,243	2065
53	$ -	$ 30,455	$ -	$ 30,455	0.5600	$ 17,055	2066
54	$ -	$ 30,455	$ -	$ 30,455	0.5539	$ 16,869	2067
55	$ -	$ 27,410	$ -	$ 27,410	0.5479	$ 15,017	2068
56	$ -	$ 27,410	$ -	$ 27,410	0.5419	$ 14,854	2069
57	$ -	$ 27,410	$ -	$ 27,410	0.5360	$ 14,692	2070
58	$ -	$ 27,410	$ -	$ 27,410	0.5302	$ 14,532	2071
59	$ -	$ 27,410	$ -	$ 27,410	0.5244	$ 14,374	2072
60	$ -	$ 24,669	$ -	$ 24,669	0.5187	$ 12,796	2073
61	$ -	$ 24,669	$ -	$ 24,669	0.5131	$ 12,657	2074
62	$ -	$ 24,669	$ -	$ 24,669	0.5075	$ 12,519	2075
63	$ -	$ 24,669	$ -	$ 24,669	0.5020	$ 12,383	2076
64	$ -	$ 24,669	$ -	$ 24,669	0.4965	$ 12,248	2077
65	$ -	$ 22,202	$ -	$ 22,202	0.4911	$ 10,903	2078
66	$ -	$ 22,202	$ -	$ 22,202	0.4858	$ 10,785	2079
67	$ -	$ 22,202	$ -	$ 22,202	0.4805	$ 10,667	2080
68	$ -	$ 22,202	$ -	$ 22,202	0.4752	$ 10,551	2081
69	$ -	$ 22,202	$ -	$ 22,202	0.4701	$ 10,437	2082
70	$ -	$ 22,202	$ -	$ 22,202	0.4650	$ 10,323	2083
71	$ -	$ 22,202	$ -	$ 22,202	0.4599	$ 10,211	2084
72	$ -	$ 19,982	$ -	$ 19,982	0.4549	$ 9,090	2085
73	$ -	$ 19,982	$ -	$ 19,982	0.4500	$ 8,991	2086
74	$ -	$ 19,982	$ -	$ 19,982	0.4451	$ 8,893	2087
75	$ -	$ 19,982	$ -	$ 19,982	0.4402	$ 8,796	2088
76	$ -	$ 19,982	$ -	$ 19,982	0.4354	$ 8,700	2089
77	$ -	$ 17,983	$ -	$ 17,983	0.4307	$ 7,745	2090
78	$ -	$ 17,983	$ -	$ 17,983	0.4260	$ 7,661	2091
79	$ -	$ 17,983	$ -	$ 17,983	0.4214	$ 7,578	2092
80	$ -	$ 17,983	$ -	$ 17,983	0.4168	$ 7,495	2093
81	$ -	$ 17,983	$ -	$ 17,983	0.4122	$ 7,414	2094
82	$ -	$ 16,185	$ -	$ 16,185	0.4078	$ 6,600	2095
83	$ -	$ 16,185	$ -	$ 16,185	0.4033	$ 6,528	2096

TABLE H-14
J-2 Range Eastern Groundwater Alternative 2
Present Value Calculation

Year	Monitoring Well Construction and System and Well Abandonment Costs	Monitoring Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 1.1%)	Total Present Value Cost at 1.1%	Calendar Year
84	$ -	$ 16,185	$ -	$ 16,185	0.3989	$ 6,457	2097
85	$ -	$ 16,185	$ -	$ 16,185	0.3946	$ 6,387	2098
86	$ -	$ 16,185	$ -	$ 16,185	0.3903	$ 6,317	2099
87	$ -	$ 14,567	$ -	$ 14,567	0.3861	$ 5,624	2100
88	$ -	$ 14,567	$ -	$ 14,567	0.3819	$ 5,562	2101
89	$ -	$ 14,567	$ -	$ 14,567	0.3777	$ 5,502	2102
90	$ -	$ 14,567	$ -	$ 14,567	0.3736	$ 5,442	2103
91	$ -	$ 14,567	$ -	$ 14,567	0.3695	$ 5,383	2104
92	$ -	$ 14,567	$ -	$ 14,567	0.3655	$ 5,324	2105
93	$ 161,450	$ 22,202	$ 84,235	$ 267,886	0.3615	$ 96,848	2106
TOTAL	$ 796,719	$ 3,792,900	$ 84,235	$ 4,673,853		$ 3,230,738	

TABLE H-15
J-2 Range Eastern Groundwater Alternative 3
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
CAPITAL COSTS - MONITORING WELL CONSTRUCTION COSTS							
Property Access Support (ROA)	1	LS	$ 13,000	$ 13,000		Includes NHESP fee.	All drilling is on-base.
Site Prep/UXO Support/Restoration-Well Area	3	WELL	$ 50,000	$ 150,000		Per well cluster	All drilling is on-base.
Drilling Subcontractor Mobilization	1	LS	$ 8,500	$ 8,500			
LTM Well Drilling	3	EA	$ 87,000	$ 261,000		Includes all labor, subcontractor cost and materials for well drilling, screen installation, development, and pump installation. Also includes analytical.	One well cluster will include two screens.
IDM	3	LS	$ 5,000	$ 15,000			
Surveying	1	LS	$ 5,000	$ 5,000			
SUBTOTAL					$ 452,500		
Overhead & Support	1	LS		$ 45,250		10% of costs	
TOTAL					$ 497,750		
TOTAL ESCALATED					$ 635,269	Escalated from 2008	yr 2013
ANNUAL COSTS - OPERATIONS AND MAINTENANCE							
Treatment System	1	YR	$ 200,000	$ 200,000			
TOTAL					$ 200,000		
TOTAL ESCALATED					$ 210,000	Escalated from 2012	yr 2013
ANNUAL COSTS - ANNUAL GROUNDWATER MONITORING							
Monitoring and Reporting	1	LS	$ 110,706	$ 110,706			Annual cost decreases by 10% every 2 years assuming fewer wells are monitored as plume footprint diminishes.
Overhead & Support	1	LS		$ 11,071		10% of costs	
TOTAL					$ 121,777		
TOTAL ESCALATED					$ 155,421	Escalated from 2008	yr 2013
CAPITAL COSTS - WELL ABANDONMENT							
System Decommissioning	1	LS	$ 10,000	$ 10,000		For the building	
EW Abandonment	3	WL	$ 10,000	$ 30,000			
MW Cluster Abandonment	1	LS	$ 75,000	$ 75,000			45 MW clusters
SUBTOTAL					$ 115,000		
Overhead & Support	1	LS		$ 11,500		10% of costs	
TOTAL					$ 126,500		
TOTAL ESCALATED					$ 161,450	Escalated from 2008	yr 2013
DIRECT COSTS - SITE CLOSEOUT REPORT							
Report	1	LS	$ 60,000	$ 60,000			
Overhead & Support				$ 6,000		10% of costs	
TOTAL					$ 66,000		
TOTAL ESCALATED					$ 84,235	Escalated from 2008.	yr 2013

TABLE H-16
J-2 Range Eastern Groundwater Alternative 3
Present Value Calculation

Year	Monitoring Well Construction and System and Well Abandonment Costs	Monitoring Costs	O&M Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 0.8%)	Total Present Value Cost at 0.8%	Calendar Year
0	$ -	$ 155,421	$ 210,000	$ -	$ 365,421	1.0000	$ 365,421	2013
1	$ -	$ 155,421	$ 210,000	$ -	$ 365,421	0.9921	$ 362,521	2014
2	$ -	$ 139,879	$ 210,000	$ -	$ 349,879	0.9842	$ 344,348	2015
3	$ -	$ 139,879	$ 210,000	$ -	$ 349,879	0.9764	$ 341,615	2016
4	$ -	$ 125,891	$ 210,000	$ -	$ 335,891	0.9686	$ 325,354	2017
5	$ -	$ 125,891	$ 210,000	$ -	$ 335,891	0.9609	$ 322,772	2018
6	$ -	$ 113,302	$ 210,000	$ -	$ 323,302	0.9533	$ 308,209	2019
7	$ -	$ 113,302	$ 210,000	$ -	$ 323,302	0.9457	$ 305,763	2020
8	$ -	$ 101,972	$ 210,000	$ -	$ 311,972	0.9382	$ 292,706	2021
9	$ -	$ 101,972	$ 210,000	$ -	$ 311,972	0.9308	$ 290,383	2022
10	$ 635,269	$ 91,775	$ 210,000	$ -	$ 937,044	0.9234	$ 865,276	2023
11	$ -	$ 91,775	$ 210,000	$ -	$ 301,775	0.9161	$ 276,450	2024
12	$ -	$ 82,597	$ 210,000	$ -	$ 292,597	0.9088	$ 265,916	2025
13	$ -	$ 82,597	$ 210,000	$ -	$ 292,597	0.9016	$ 263,805	2026
14	$ -	$ 74,337	$ 210,000	$ -	$ 284,337	0.8944	$ 254,324	2027
15	$ -	$ 74,337	$ -	$ -	$ 74,337	0.8873	$ 65,963	2028
16	$ 161,450	$ 66,904	$ -	$ 84,235	$ 312,588	0.8803	$ 275,172	2029
TOTAL	$ 796,719	$ 1,837,253	$ 3,150,000	$ 84,235	$ 5,868,207		$ 5,525,996	

TABLE H-17
J-2 Range Eastern Groundwater Alternative 4
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
CAPITAL COSTS - MONITORING WELL CONSTRUCTION COSTS							
Property Access Support (ROA)	1	LS	$ 13,000	$ 13,000		Includes NHESP fee.	All drilling is on-base.
Site Prep/UXO Support/Restoration-Well Area	3	WELL	$ 50,000	$ 150,000		Per well cluster	All drilling is on-base.
Drilling Subcontractor Mobilization	1	LS	$ 8,500	$ 8,500			
LTM Well Drilling	3	EA	$ 87,000	$ 261,000		Includes all labor, subcontractor cost and materials for well drilling, screen installation, development, and pump installation. Also includes analytical.	One well cluster will include two screens.
IDM	3	LS	$ 5,000	$ 15,000			
Surveying	1	LS	$ 5,000	$ 5,000			
SUBTOTAL					$ 452,500		
Overhead & Support	1	LS		$ 45,250		10% of costs	
TOTAL					$ 497,750		
TOTAL ESCALATED					$ 635,269	Escalated from 2008	yr 2013
ANNUAL COSTS - OPERATIONS AND MAINTENANCE							
Treatment System	1	YR	$ 200,000	$ 200,000			
TOTAL					$ 200,000		
TOTAL ESCALATED					$ 242,000	Escalated from 2012 plus increased flowrate	yr 2013
ANNUAL COSTS - ANNUAL GROUNDWATER MONITORING							
Monitoring and Reporting	1	LS	$ 110,706	$ 110,706			Annual cost decreases by 10% every 2 years assuming fewer wells are monitored as plume footprint diminishes.
Overhead & Support	1	LS		$ 11,071		10% of costs	
TOTAL					$ 121,777		
TOTAL ESCALATED					$ 155,421	Escalated from 2008	yr 2013
CAPITAL COSTS - WELL ABANDONMENT							
System Decommissioning	1	LS	$ 10,000	$ 10,000		For the building	
EW Abandonment	3	WL	$ 10,000	$ 30,000			
MW Cluster Abandonment	1	LS	$ 75,000	$ 75,000			45 MW clusters
SUBTOTAL					$ 115,000		
Overhead & Support	1	LS		$ 11,500		10% of costs	
TOTAL					$ 126,500		
TOTAL ESCALATED					$ 161,450	Escalated from 2008	yr 2013
DIRECT COSTS - SITE CLOSEOUT REPORT							
Report	1	LS	$ 60,000	$ 60,000			
Overhead & Support				$ 6,000		10% of costs	
TOTAL					$ 66,000		
TOTAL ESCALATED					$ 84,235	Escalated from 2008.	yr 2013

TABLE H-18
J-2 Range Eastern Groundwater Alternative 4
Present Value Calculation

Year	Monitoring Well Construction and System and Well Abandonment Costs	Monitoring Costs	O&M Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 0.8%)	Total Present Value Cost at 0.8%	Calendar Year
0	$ -	$ 155,421	$ 242,000	$ -	$ 397,421	1.0000	$ 397,421	2013
1	$ -	$ 155,421	$ 242,000	$ -	$ 397,421	0.9921	$ 394,267	2014
2	$ -	$ 139,879	$ 242,000	$ -	$ 381,879	0.9842	$ 375,842	2015
3	$ -	$ 139,879	$ 242,000	$ -	$ 381,879	0.9764	$ 372,859	2016
4	$ -	$ 125,891	$ 242,000	$ -	$ 367,891	0.9686	$ 356,350	2017
5	$ -	$ 125,891	$ 242,000	$ -	$ 367,891	0.9609	$ 353,522	2018
6	$ -	$ 113,302	$ 242,000	$ -	$ 355,302	0.9533	$ 338,715	2019
7	$ -	$ 113,302	$ 242,000	$ -	$ 355,302	0.9457	$ 336,027	2020
8	$ -	$ 101,972	$ 242,000	$ -	$ 343,972	0.9382	$ 322,730	2021
9	$ -	$ 101,972	$ 242,000	$ -	$ 343,972	0.9308	$ 320,168	2022
10	$ 635,269	$ 91,775	$ 242,000	$ -	$ 969,044	0.9234	$ 894,825	2023
11	$ -	$ 91,775	$ 242,000	$ -	$ 333,775	0.9161	$ 305,765	2024
12	$ -	$ 82,597	$ 242,000	$ -	$ 324,597	0.9088	$ 294,998	2025
13	$ -	$ 82,597	$ 242,000	$ -	$ 324,597	0.9016	$ 292,656	2026
14	$ -	$ 74,337	$ 242,000	$ -	$ 316,337	0.8944	$ 282,946	2027
15	$ -	$ 74,337	$ -	$ -	$ 74,337	0.8873	$ 65,963	2028
16	$ 161,450	$ 66,904	$ -	$ 84,235	$ 312,588	0.8803	$ 275,172	2029
TOTAL	$ 796,719	$ 1,837,253	$ 3,630,000	$ 84,235	$ 6,348,207		$ 5,980,225	

TABLE H-19
J-2 Range Eastern Groundwater Alternative 5
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
CAPITAL COSTS - TREATMENT SYSTEM DESIGN, CONSTRUCTION AND STARTUP COSTS							
Mobilization							
Property Access Support (ROA)	1	LS	$ 13,000	$ 13,000		Includes NHESP fee.	
Chemical and Hydraulic Study	1	LS	$279,386	$ 279,386		Necessary because the new EWs may be sited where there is insufficient existing data. Includes UXO support, site prep, drilling and oversight, data collection, analysis, data management, and interpretation of physical and chemical samples.	
Engineering							
Modeling/Design	1	LS	$60,000	$ 60,000		Wellfield modeling; pump design	
System Engineering Design	1	LS	$70,000	$ 70,000		Includes engineering design for the treatment system, pipeline, site engineering, and startup engineering.	
ETI Wellfield Construction							
Site Prep/UXO Support/Restoration-Well Area	3	WELL	$ 50,000	$ 150,000			All drilling is on-base.
EW Driller Mobilization	1	LS	$ 8,500	$ 8,500			
EW Drilling & Installation	2	EA	$ 350,000	$ 700,000		Includes all labor, subcontractor cost and materials for well drilling, screen installation, development, and pump installation. Also includes analytical.	
PME Well Drilling	3	2	$ 100,000	$ 300,000		Includes all labor, subcontractor cost and materials for well drilling, screen installation and development.	
IDM	4	LS	$ 5,000	$ 20,000			
EW Pump, Motor & Assoc. Materials	2	WELL	$ 22,361	$ 44,723		Includes installation.	Maximum design flow will vary per EW.
Pit Less Adapter	2	WELL	$ 5,000	$ 10,000		Includes installation and mechanical work.	
Piping	1,600	LF	$ 65	$ 104,000			
UXO support for piping and overhead power	8	DY	$ 2,100	$ 16,800			
Power, Electric, Communications, Overhead	1,600	LF	$ 75	$ 120,000			
250 gpm Stand-Alone Treatment System	2	LS	$ 250,000	$ 500,000		Includes all equipment, materials, labor, subcontracts, overhead, fee, etc.	
Infiltration Trenches	2	EA	$ 75,000	$ 150,000		Includes UXO clearance.	
SUBTOTAL					$ 2,546,409		
Overhead & Support	1	LS		$ 254,641		10% of costs	
TOTAL					$ 2,801,049		
TOTAL ESCALATED					$ 3,574,928	Escalated from 2008	yr 2013
CAPITAL COSTS - BASELINE HYDRAULIC MONITORING							
Baseline Performance and Environmental Sampling							
New EWs	2	LS	$ 10,000	$ 20,000			Hydraulic measurements only.
Baseline Report	1	LS	$ 10,000	$ 10,000		Incremental cost for incorporating additional data into previously-scoped annual report for J-2 RRA.	Assume separate report not required. Data will be rolled into previously-scoped annual report.
Overhead & Support	1	LS		$ 6,000		10% of costs	
TOTAL				$ 36,000			
TOTAL ESCALATED					$ 45,946	Escalated from 2008	System starts in 2013.

TABLE H-19
J-2 Range Eastern Groundwater Alternative 5
Cost Basis

ITEM	QUANTITY	UNITS	UNIT COST	TOTAL	SUBTOTAL	COMMENTS	ASSUMPTIONS
ANNUAL COSTS - OPERATIONS AND MAINTENANCE							
Treatment System	1	YR	$ 350,000	$ 350,000			
TOTAL			$ -		$ 350,000		
TOTAL ESCALATED					$ 437,500	Escalated from 2012 plus increased flow	yr 2013
ANNUAL COSTS - ANNUAL GROUNDWATER MONITORING							
Monitoring and Reporting	1	LS	$ 110,706	$ 110,706			Annual cost decreases by 10% every 2 years assuming fewer wells are monitored as plume footprint diminishes.
Overhead & Support	1	LS		$ 11,071		10% of costs	
TOTAL					$ 121,777		
TOTAL ESCALATED					$ 155,421	Escalated from 2008	yr 2013
CAPITAL COSTS - WELL ABANDONMENT							
System Decommissioning	1	LS	$ 10,000	$ 10,000		For the building	
EW Abandonment	5	WL	$ 10,000	$ 50,000			
MW Cluster Abandonment	1	LS	$ 75,000	$ 75,000			45 MW clusters
SUBTOTAL					$ 135,000		
Overhead & Support	1	LS		$ 13,500		10% of costs	
TOTAL					$ 148,500		
TOTAL ESCALATED					$ 189,528	Escalated from 2008	yr 2013
DIRECT COSTS - SITE CLOSEOUT REPORT							
Report	1	LS	$ 60,000	$ 60,000			
Overhead & Support				$ 6,000		10% of costs	
TOTAL					$ 66,000		
TOTAL ESCALATED					$ 84,235	Escalated from 2008	yr 2013

TABLE H-20
J-2 Range Eastern Groundwater Alternative 5
Present Value Calculation

Year	New Treatment System Design and Construction, System and Well Abandonment Costs	Baseline Monitoring Costs	Monitoring Costs	O&M Costs	Site Closeout Report	Total Cost (0% Discount)	Discount Factor (for 0.8%)	Total Present Value Cost at 0.8%	Calendar Year
0	$ 3,574,928	$ -	$ 155,421	$ 437,500	$ -	$ 4,167,849	1.0000	$ 4,167,849	2013
1	$ -	$ 45,946	$ 155,421	$ 437,500	$ -	$ 638,867	0.9921	$ 633,797	2014
2	$ -	$ -	$ 139,879	$ 437,500	$ -	$ 577,379	0.9842	$ 568,251	2015
3	$ -	$ -	$ 139,879	$ 437,500	$ -	$ 577,379	0.9764	$ 563,741	2016
4	$ -	$ -	$ 125,891	$ 437,500	$ -	$ 563,391	0.9686	$ 545,718	2017
5	$ -	$ -	$ 125,891	$ 437,500	$ -	$ 563,391	0.9609	$ 541,386	2018
6	$ -	$ -	$ 113,302	$ 437,500	$ -	$ 550,802	0.9533	$ 525,088	2019
7	$ -	$ -	$ 113,302	$ 437,500	$ -	$ 550,802	0.9457	$ 520,921	2020
8	$ -	$ -	$ 101,972	$ 437,500	$ -	$ 539,472	0.9382	$ 506,156	2021
9	$ -	$ -	$ 101,972	$ 437,500	$ -	$ 539,472	0.9308	$ 502,139	2022
10	$ -	$ -	$ 91,775	$ -	$ -	$ 91,775	0.9234	$ 84,746	2023
11	$ 189,528	$ -	$ 82,597	$ -	$ 84,235	$ 356,360	0.9161	$ 326,454	2024
TOTAL	$ 3,764,456	$ 45,946	$ 1,447,303	$ 4,375,000	$ 84,235	$ 9,716,939		$ 9,486,246	